

CHAPTER 4

agriculture

Wan Zuhainis Saad

A greater focus on the role of microbiology in agriculture combined with new technologies can help to develop more eco-friendly and sustainable environment. Improved understanding of plant-microbe interactions has the potential to increase crop productivity while reducing fertilizer and pesticide requirements. Using microbes in our soils and agricultural systems have been subjected to a variety of trials within Malaysia.

Biofertilizers are supplementary components to soil and crop management traditions whose operation can significantly be useful in maintaining the sustainability of various crop productions. It is important to realise the useful aspects of biofertilizers and implement its application to modern agricultural practices. Soil microbes have a tremendous influence on plant health and productivity. The little bacteria miracle in the soil is to fix nitrogen (N). B-Green Biofertilizer compost with multi strain-nitrogen-fixing bacteria and phosphate-solubilizing bacteria enhance the plant and microbe interaction in the soil. It helps to fix N from the atmosphere and supplies N for plant growth. This will also reduce the use of chemical fertilizers for a more environmental friendly ecosystem. In this healthy natural system, mutually beneficial relationship between microorganisms and soil

ecosystem evolved over ages and led to the formation of our most fertile and well-structured soils. Recent progresses in technologies related to microbial science, plant-pathogen interactions, and genomics will help to optimize the benefits.

The act of feeding antibiotics as feed supplements to livestock has been practised for over 50 years. The increasing demand on antibiotic free-food has greatly affected the antibiotic use in recent years. Probiotic, Prebiotic and Postbiotic are the common terms related to benefits of microbes and have gained popularity in the poultry industry. POSTBIOTIC, are metabolites that are derived naturally by Lactic acid bacteria. It improves growth performance and overall gut health of broilers and layers. The inhibitory activities towards foodborne pathogens were well documented. POSTBIOTIC possesses vast potential to be employed as feed additives to provide a good quality poultry and layer products for consumers while reducing the use of conventional chemotherapeutic agents.

We believe microbes are an important part of our lives to ensure the healthy ecosystem for generations to come.



